# CITY OF LAGUNA WOODS
## GENERAL PLAN
## NOISE ELEMENT

**AUGUST 2024**

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# NOISE ELEMENT

**August 2024**

## INTRODUCTION

California Government Code Section 65300 requires each city to adopt a comprehensive, long-term general plan to guide physical development. The Laguna Woods General Plan reflects the City of Laguna Woods' intentions about land use and its relationship to conservation, housing, mobility, noise, open space, and safety. This element identifies priority noise issues in Laguna Woods and sets forth goals and policies to achieve balance between the needs of the community and future development.

## PURPOSE AND SCOPE

State law requires that general plans include a noise element, as follows:

> **California Government Code Section 65302(f):** [The general plan must include] a noise element that shall identify and appraise noise problems in the community. The noise element shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:
>
> (A) Highways and freeways.
> (B) Primary arterials and major local streets.
> (C) Passenger and freight online railroad operations and ground rapid transit systems.
> (D) Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.
> (E) Local industrial plants, including, but not limited to, railroad classification yards.
> (F) Other ground stationary noise sources, including, but not limited to, military installations, identified by local agencies as contributing to the community noise environment.

California Government Code further requires noise elements to include measures and possible solutions for existing and foreseeable noise problems, if any. In doing so, noise elements also serve as guidelines for compliance with the State of California's noise insulation standards.

Noise contours for the noise sources specified in California Government Code Section 65302(f)(A)-(F) must be included in noise elements to serve as a guide for establishing a pattern of land uses in land use elements that minimizes the exposure of community residents to excessive noise.

This element addresses the following priority issues:

- Transportation-related noise
- Construction-related noise
- Noise-sensitive land uses

## NOISE PLAN

NOISE MEASUREMENTS

Sound is described in terms of amplitude (loudness) and frequency (pitch). The basic unit of sound is the decibel (dB), which is calculated using a logarithmic ratio of sound pressures. Sound can be measured on several different noise-weighting scales. The scale that most closely approximates human hearing is the A-weighted scale, which measures A-weighted decibels (dBA).

Noise is often defined as unwanted or intrusive sound. In addition to being a general annoyance, excessive noise may cause discomfort, frustration, stress, and disorientation. Excessive noise may also interfere with sleep, disrupt normal activity, impair communication, and contribute to health issues including high blood pressure, anxiety, and hearing loss.

Although sound can be easily measured, noise levels are subjective and the physical response to sound complicates the analysis of its effects on people. Sound sensation is often discussed in terms such as noisiness or loudness.

The Community Noise Equivalent Level (CNEL) is the noise measurement technique applied by the City throughout this Noise Element to describe the current and future noise environment affected by transportation-generated noise. The CNEL is the average equivalent A-weighted sound level during a 24-hour day, obtained after adding five decibels to sound levels from 7 p.m. to 10 p.m. and 10 decibels to sound levels from 10 p.m. to 7 a.m. As opposed to

other noise measurement techniques that may focus on noise levels at a point in time, the CNEL better characterizes the continuous nature of transportation noise with weightings to reflect increased sensitivity to noise during evening, overnight, and early morning hours.

NOISE-SENSITIVE LAND USES

Noise-sensitive land uses are those that are associated with activities that are particularly disrupted, or interfered with, by noise. Noise-sensitive land uses generally consist of the following: residences, convalescent homes, hospitals, schools, churches, temples, places of worship, public parks, and sensitive wildlife habitat, including the habitat of rare, threatened, and endangered species. While Laguna Woods contains a variety of noise-sensitive land uses, the most prevalent noise-sensitive land use is residences.

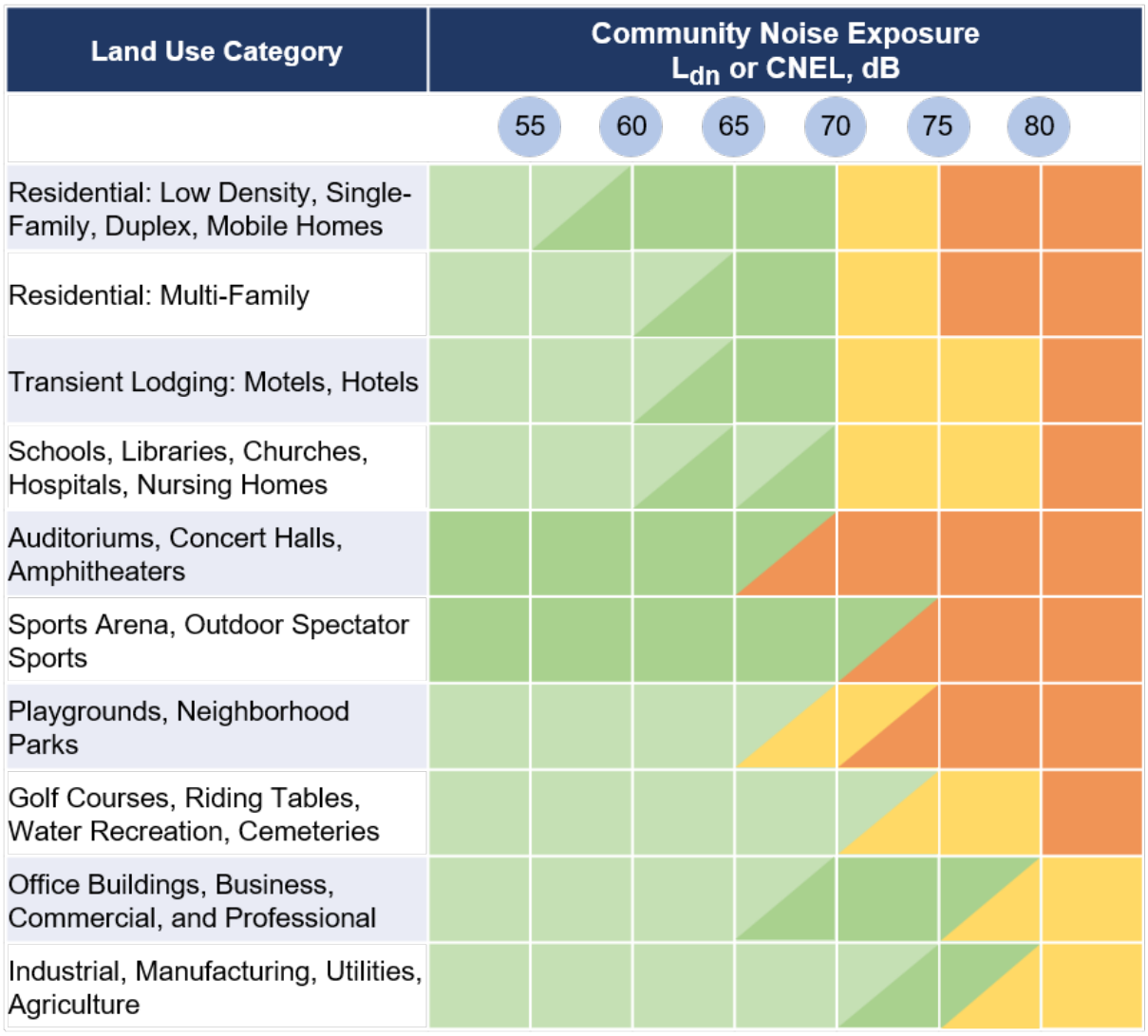
NOISE AND LAND USE COMPATABILITY STANDARDS

Applicable law generally allows the City to regulate noise from both stationary and non-stationary sources, as well as temporary and intended permanent sources; however, certain preemptions exist including, but not limited to, the regulation of aircraft noise and noise from certain facilities regulated by the California Public Utilities Commission. Land use planning and noise standards codified as part of the Laguna Woods Municipal Code are the City's primary tools for mitigating existing, and reducing future, noise problems.

Land use planning allows the City to control the physical location and siting of noise-generating uses. Land use designation and zoning decisions are made with consideration afforded to the impacts of development on noise-sensitive uses. When applicable, discretionary development review also affords the City the ability to require site-specific noise mitigation measures (e.g., noise barriers, landscape buffers, and sound-attenuating building features) and otherwise condition the approval of development applications to promote compliance with federal, state, and local noise standards.

**Table N-1** identifies the City's standards for evaluating the acceptability of noise in the context of land use decision-making. These standards apply to the prospective evaluation of noise and land use compatibility for projects subject to discretionary development review and other future planning efforts. Land

***Table N-1:*** *Noise and Land Use Compatibility*




*Source: 2017 OPR General Plan Guidelines*

**Normally Acceptable**
*Specified land use is satisfactory based upon the assumption that nay buildings involved are of normal conventional construction, without any special noise insulation requirements*

**Conditionally Acceptable**
*New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction but with closed windows and fresh air supply systems or air conditioning will normally suffice*

**Normally Unacceptable**
*New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design*

**Clearly Unacceptable**
*New construction or development should generally not be undertaken*

uses and projects approved prior the adoption of these standards may have been evaluated differently, particularly when such evaluation was the County of Orange's responsibility prior to the City's incorporation.

The City's local noise standards are codified in the Laguna Woods Municipal Code and often referred to as the City's noise ordinance. The noise ordinance establishes decibel-based restrictions and is a primary tool for implementing this Noise Element, particularly as it relates to the existing presence of noise and noise-generating activities.

## NOISE CONDITIONS

### *Existing Noise Conditions*

The most significant existing noise sources affecting Laguna Woods are vehicle related. The proximity of Interstate 5 and its high levels of vehicle traffic greatly contribute to noise in northeasterly areas of Laguna Woods. Other significant noise is generated by vehicle traffic on El Toro Road, Moulton Parkway, and Paseo de Valencia (the latter is located in the city of Laguna Hills). While vehicle noise generally lessens with increased distance from Interstate 5 and arterial highways, noise may still originate from any local road or area in which vehicles travel or park (e.g., as a result of emergency response vehicle sirens, heavy truck traffic, vehicle movements in parking lots, and vehicle alarms).

While not as pervasive as vehicle-related noise, construction activity can also create significant noise, often of an intermittent nature. Other existing sources of intermittent noise include aircraft overflight (typically associated with travel to and from John Wayne Airport), amplified music, animal vocalizations (both domesticated and wild), outdoor events, power equipment (e.g., drills, leaf blowers, mowers, saws, and vacuums); and, stationary equipment (e.g., air conditioners, exhaust systems, generators, heaters, and pumps).

Noise environments are documented by delineating noise contours that define areas of equal noise exposure. The noise contours included herein were developed using transportation noise modeling software developed by the Federal Highway Administration (FHA) and data collected from a 2015 noise survey. The FHA software was used to calculate average noise levels based on traffic volumes, posted speed limits, roadway geometry, and environmental

conditions. Noise contours calculated using the FHA software are generally viewed as conservative as the presence of topography, intervening structures, and noise mitigation measures is not considered.

**Figure N-1** depicts noise contours for existing transportation noise conditions based on 2022 traffic counts and a 2015 noise survey.

*Future Noise Conditions*

The Land Use Element anticipates a modest amount of future development, accompanied by a modest increase in vehicle traffic volumes. Vehicle traffic is anticipated to remain the most significant source of noise in the future.

With the future development anticipated in the Land Use Element, noise levels are expected to rise by a small amount; however, such increases would be barely perceptible to the average person (approximately 3 dBA CNEL or less) and occur gradually over an extended period of time.

**Figure N-2** depicts noise contours for future transportation noise conditions based on projected 2045 traffic counts and the noise contours in **Figure N-1**.

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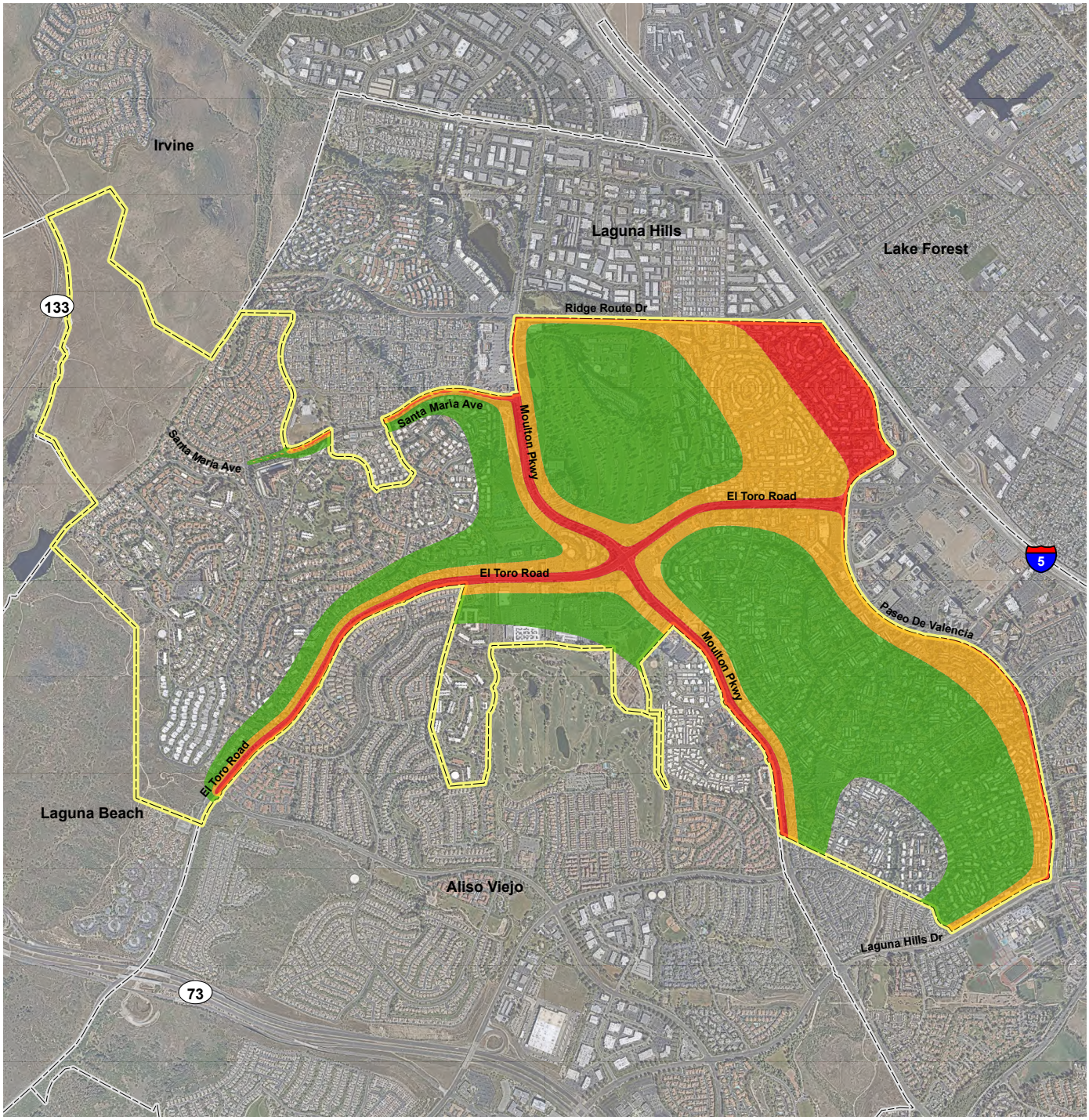


**Legend**

Laguna Woods Boundary

**Existing Transportation Noise Contours**

- < 50 CNEL
- 60-65 CNEL
- 65-70 CNEL
- 70+ CNEL

N
W E
S

0 1,250 2,500 Feet

Source: Nearmap 2023

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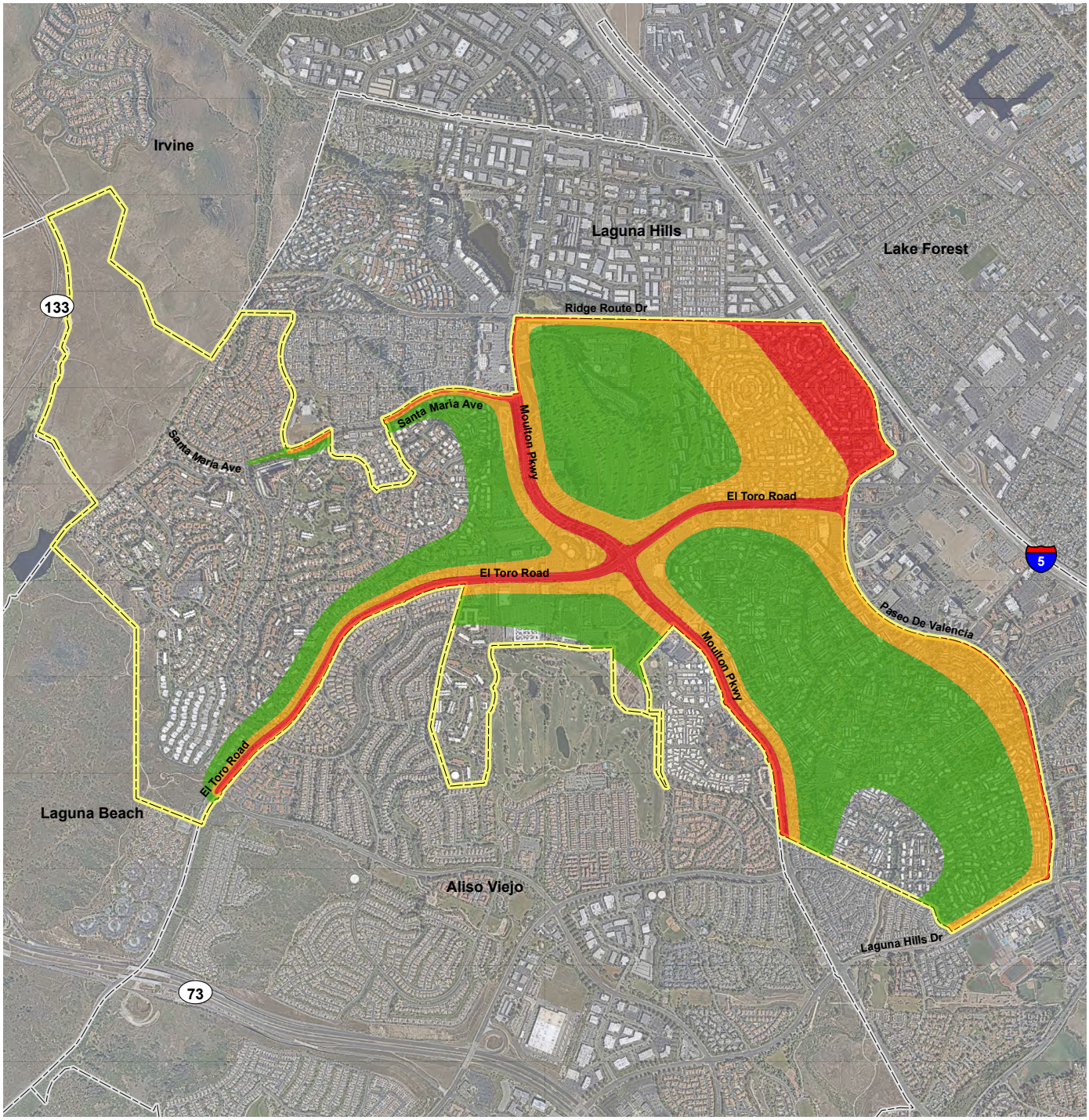
# Existing Transportation Noise Contours

Figure N-1




**Legend**

Laguna Woods Boundary

**Future (2045) Transportation Noise Contours**

- < 50 CNEL
- 60-65 CNEL
- 65-70 CNEL
- 70+ CNEL

N
W E
S

0 1,250 2,500 Feet

Source: Nearmap 2023

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# Future (2045) Transportation Noise Contours

Figure N-2

## GOALS AND POLICY OBJECTIVES

This element is organized to be consistent with the other elements of the Laguna Woods General Plan. Goals and policy objectives provide declarative statements that set forth the City's approach to each of the priority issues.

**Goals:** General statements of desired outcomes.

**Policy Objectives:** Specific commitments to support decisions and actions consistent with a stated goal. Policy objectives provide guidance to the City Council, City advisory committees, and City staff when reviewing development applications and making other decisions that affect growth, conservation, and development.

Priority Issue 1. TRANSPORTATION-RELATED NOISE.

*Goal N-1. Minimize the impact of transportation-related noise on land uses affected by Interstate 5 and arterial roadways.*

*Policy Objective N-1.1.* Establish and apply standards for development projects to make siting decisions and provide noise barriers or other noise reduction improvements or strategies appropriate to the proposed land uses based on exposure to noise from Interstate 5 and arterial roadways.

*Policy Objective N-1.2.* Consider opportunities to provide noise reduction improvements and strategies in conjunction with the new construction or substantial reconfiguration of public roadways. If feasible and economical, implement such improvements and strategies.

*Policy Objective N-1.3.* Maintain public roadways in a manner that seeks to reduce the presence of cracks, potholes, and other deterioration that may amplify or generate noise during vehicle travel.

*Policy Objective N-1.4.* Encourage relevant authorities to actively enforce vehicle-related state laws regarding illegal or faulty exhaust systems, and operations that cause excessive tire squealing or exhaust noise.

*Policy Objective N-1.5.* Advocate for local interests in the consideration of

development projects within the jurisdiction of other government agencies that could increase transportation noise within Laguna Woods.

Note: The Laguna Woods General Plan's Mobility Element contains a number of goals that could have a direct impact on transportation-related noise. For example, efforts to "support active transportation" (Goal M-3), "support golf cart use" (Goal M-5), "promote a regionally connected transportation system" (Goal M-6), and "reduce single-occupant vehicle use and traffic congestion" could reduce conventional vehicle traffic and, thereby, lessen noise.

Priority Issue 2. CONSTRUCTION-RELATED NOISE.

*Goal N-2. Minimize the impact of construction-related noise on properties not undergoing such construction.*

*Policy Objective N-2.1.* Regulate the timing of construction activities with the potential to result in significant noise affecting uninvolved properties, particularly during evening, overnight, and early morning hours.

*Policy Objective N-2.2.* Advocate for local interests in the consideration of development projects within the jurisdiction of other government agencies that could generate significant construction noise within Laguna Woods.

Priority Issue 3. NOISE-SENSITIVE LAND USES.

*Goal N-3. Protect residences, convalescent homes, and other noise-sensitive land uses from excessive exterior noise exposure.*

*Policy Objective N-3.1.* Establish and apply standards for development projects to make siting decisions and provide noise barriers or other noise reduction improvements or strategies appropriate to the proposed land uses based on expected audible proximity to noise-sensitive land uses.

*Policy Objective N-3.2.* Regulate the timing of commercial activities with the potential to result in significant noise affecting noise-sensitive land uses, particularly during evening, overnight, and early morning hours.

*Policy Objective N-3.3.* Prohibit the siting of new noise-sensitive land uses in areas of unacceptable noise exposure (Table N-1) without the inclusion of noise barriers or other noise reduction improvements or strategies that provide adequate mitigation.

*Policy Objective N-3.4.* Prohibit the siting of new multi-family residential buildings within noise contours of 60 dBA and above without the inclusion of insulation as required by state law.

*Policy Objective N-3.5.* Advocate for local interests in the consideration of development projects within the jurisdiction of other government agencies that could increase noise for noise-sensitive land uses within Laguna Woods.